VAZHNOV, A.I.; POPOV, V.V.

Static stability of an electric power transmission system with an asynchronous support compensator. Trudy LPI no.241:135-142  '64.

(MIRA 18:4)

VAZHNOV, A.I., inzh.; GORDON, I.A., inzh.; SALITA, P.Z., inzh.

Models of low-powered synchronous machines. Vest. elektroprom.
32 no.6:48-50 Je '61.                                    (MIRA 16:7)
                    (Electric machinery, Synchronous--Models)

VAZHNOV, A.I. (Leningrad)

Method for calculating the movement of the rotor of
a synchronous motor with large oscillations.  Izv. AN SSSR.
Otd. tekh. nauk. Energ. i avtom. no.5:31-38  S-O '62.
(MIRA 15:11)

(Electric motors, Synchronous)

VAZHNOV, A.I. (Leningrad)

Dynamic stability of an asynchronous motor with a shock load.
Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom.  no.4:40-47
Jl-Ag '62.                                            (MIRA 15:8)
         (Electric motors, Induction)  (Electric driving)

VAZHNOV, A.I. (Leningrad)

Dynamic stability of a synchronous motor with impact load. Izv.
AN SSSR. Otd. tekh. nauk. Energ. i avtom.  no.3:84-90  My-Je '62.
                                                   (MIRA 15:6)

(Electric motors, Synchronous)

VAZHNOV, A.I. (Leningrad)

Asynchronous compensator as a means for increasing the stability
of an electric power distribution system.  Izv. AN SSSR. Otd.
tekh. nauk. Energ. i avtom. no.6:115-120 N-D '61.   (MIRA 14:12)
(Electric power distribution)

TARASOV, V.S., dotsent; VAZHNOV, A.I., dotsent; RAKITSKIY, Yu.V., inzh.;
POPOV, V.V., inzh.; SEMENOVA, L.N., inzh.

Method for conducting studies on dynamic stability with electronic
computers.  Elektrichestvo no.4:7-12 Ap '60.        (MIRA 14:4)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina.
(Electric calculating machines)
(Electric machinery—Electromechanical analogies)

S/196/61/000/011/027/042
E194/E155

AUTHORS:    Vazhnov, A.I., Gordon, I.A., and Salita, P.Z.

TITLE:     Model synchronous machines of low output

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,
no.11, 1961, 24, abstract 11I 181. (Vestn.
elektroprom-sti, no.5, 1961, 48-50)

TEXT:     The article describes model hydro- and turbo-
alternators types МГ-5/1500 (MG-5/1500) and МТ-5/1500 (MT-5/1500),
model synchronous capacitors type МК-3/1500 (MK-3/1500) and
machine field systems with an output of 3-5 kVA, 220 V, 1500 r.p.m.
The classification of the model generators as turbo- or hydro-
alternators is nominal inasmuch as the stators of both machines
are identical and the rotors are designed in such a way that either
a salient pole or cylindrical rotor can be fitted in one and the
same machine. The inertia constant of all the machines is about
5 seconds. The shafts of the model machines can carry special
flywheels with removable discs by which the inertia constant can
be increased up to 20 seconds. Two types of replaceable rotor

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Model synchronous machines of ...      S/196/61/000/011/027/042
                                       E194/E155

have been developed for model turbo- and hydro-alternators.
Replaceable rotors of the model synchronous capacitor differ
only in the construction of the damper windings.  Experimentally-
determined characteristics and losses of model machines are given.
No-load characteristics in relative units of the model machines
coincide closely with the normal no-load characteristics of the
full-scale machines.

[Abstractor's note:  Complete translation.]

Card 2/2

32064
S/024/61/000/006/016/019
E192/E382

*9,1400*

AUTHOR:     Vazhnov, A.I. (Leningrad)

TITLE:      Asynchronous compensator as a means of increasing the
            dynamic stability of electrical transmission systems

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
            tekhnicheskikh nauk. Energetika i avtomatika,
            no. 6, 1961, 115 - 120

TEXT:       The paper investigates the dynamic stability of a
long-distance transmission system, using an asynchronous machine
with rotor excitation as an auxiliary compensator. First, the
transmission system shown in Fig. 1 is considered. In this the
compensator and the synchronous generator have rotors fitted
with longitudinally and transversely symmetrical excitation
windings. If the resistances of the stators of the machines are
neglected, the angular power characteristics of the generator   1
and compensator   2   are in the form:

$$P_1 = p_{1n} \sin \theta_{1n}' + p_{12} \sin \theta_{12}' \qquad (1)$$

Card 1/87

32064
S/024/61/000/006/016/019
Asynchronous compensator ....    E192/E382

$$P_2 = p_{2n} \sin \theta_{2n}' - p_{12} \sin \theta_{12}' \qquad (2)$$

where $P_1$ and $P_2$ are the generator and compensator powers, respectively; the power amplitudes are:

$$p_{1n} = \frac{E_1'E_n}{x_{1n}}, \quad p_{2n} = \frac{E_2'E_n}{x_{2n}}, \quad p_{12} = \frac{E_1'E_2'}{x_{12}}$$

where $E_1'$ and $E_2'$ are electromagnetic forces at the output of the generator and compensator, respectively, $E_n$ is the voltage of an "infinite-power" system, $x_{1n}$, $x_{2n}$ and $x_{12}$ are mutual impedances between the voltage sources $E_1'$, $E_2'$ and $E_n$; $\theta_{1n}'$, $\theta_{2n}'$ and $\theta_{12}'$ are relative angles between the

Card 2/8?

Asynchronous compensator ....

vectors of these voltages.  All the voltages, impedances and powers are measured in relative units.  If it is assumed that the inertia constant $H_{j2} = \infty$, Eq. (1) can be simplified and written as:

$$P_1 = P_{1m} \sin (\theta_{1n}{}' - \Theta')  \qquad (3) .$$

In the case of a dynamic transient produced by a three-phase short-circuit occurring at the input of the transmission line, followed by removal of the short-circuiting and simultaneous increase in the impedance of the line, the conditions are described analytically by:

$$\cos(\theta_{1nk}' - \theta') = \frac{P_{1np}}{P_{1m}}\left(\pi - \theta_{1n0}' + \theta' - \arcsin \frac{P_{1np}}{P_{1m}}\right) - \sqrt{1 - \left(\frac{P_{1np}}{P_{1m}}\right)^2}$$

$$(4)$$

Card 3/87

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S/024/61/000/006/016/019
Asynchronous compensator ....          E192/E382

where $\Theta'_{1n0}$, $\Theta'_{1nk}$ are the values of the angle $\Theta'_{1n}$, corresponding to the initial steady-state conditions and to the instant of the removal of the short-circuit.  The difference between the two angles represents the change in the angle $\Theta'_{1n}$ during the short-circuiting interval $\tau_k$, which is expressed by:

$$\tau_k = \sqrt{\frac{2H_{j1}(\Theta_{1nk}' - \Theta_{1n0}')}{P_{1np}}} \qquad (5)$$

where $H_{j1}$ is the inertia constant of the generator.

It is now possible to investigate the transmission system where the compensators are in the form of asynchronous machines with rotor excitation.  If at the instant of the removal of the short-circuit the angle $\Theta_{12}'$ is about $70 - 90^\circ$ the

angular characteristics of the machines can be written in a
Card 4/07

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S/024/61/000/006/016/019
E192/E382

Asynchronous compensator ....

simplified form since $\sin \theta_{12}{}' \approx 1$. In this case, the dynamic
threshold transients can be expressed by:

$$\cos \theta_{1nk}{}' = \frac{P_{1np}}{P_{1n}}\left(\pi - \theta'_{1n0} - \arcsin \frac{P_{1np} - P_{12}}{P_{1n}}\right) -$$

$$-\sqrt{1 - \left(\frac{P_{1np} - P_{12}}{P_{1n}}\right)^2} - \frac{P_{12}}{P_{1n}}\left(\pi - \theta_{1nk}{}' - \arcsin \frac{P_{1np} - P_{12}}{P_{1n}}\right)$$

$$(8),$$

which can be combined with Eq. (5) in order to determine the
relationship $P_{1np} = f(\tau_k)$. The above equations are used to
determine the dynamic stability of the transmission system of the
Card 5/7

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S/024/61/000/006/016/019
E192/E582

Asynchronous compensator ....

Stalingrad-Moscow type during a three-phase short-circuit. It is
assumed for the purpose of calculation that the compensator is
connected between the first and second line sections and that its
power amounts to half the nominal transmitted power, which is
equal to 1 260 MW. The nominal transmission voltage is 440 kW
The parameters of the synchronous generator at the output of the
transmission line are:

$$x_d = 0.5, \quad x_d^c = 0.19, \quad T_{d_o} = 6 \text{ sec and } H_j = 15 \text{ sec.}$$

The relative values of the parameters as calculated are indicated
in the table. The results of the calculations are illustrated in
three graphs, from which it is concluded that the introduction of
an asynchronous compensator leads to a substantial increase in
the dynamic stability of the transmission system. The problem of
the control methods for the excitation of the asynchronous
compensator is also investigated and it is shown that the control
can be effected on the basis of the first and second derivatives

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S/024/61/000/006/016/019
Asynchronous compensator ....        E192/E382

of the normal excitation voltage of the machine,  If the
amplification coefficients  $k_y'$  and  $k_y''$  for the first and
second derivatives, respectively, are negative, control of the
excitation leads to an increase in the static stability of the
system, whereas with positive $k_y'$  and  $k_y''$ , the conditions of
static stability deteriorate.  There are 6 figures, 1 table
and 1 Soviet-bloc reference..

SUBMITTED:    July 14, 1961

Card 7/87

VAZHNOV, A.I.; POPOV, V.V.

Dynamic stability of an asynchronous generator with excitation in
the rotor circuit. Izv. vys. ucheb. zav.; elektromekh. 3 no.11:54-
64 '60.                                                     (MIRA 14:2)
                    (Electric generators)

VAZILOV, A.I.

Approximate evaluation of the static stability of synchronous machines. Trudy LPI no. 209:56-65 '61. (MIRA 14:2)
(Electric machinery, Synchronous)

VAZHNOV, A.I.
V... OV, A.I.;   GO.DOV, I.I.

Calculation of salient pole synchronous generator models.   Trudy
LPI no. 209:56-88 '60.                                          (MIRA 14:2)
                    (Electric generators--Models)

VAZHNOV, Aleksandr Ivanovich; ROZOVSKIY, Yuriy Aleksandrovich; SALITA, Pavel
    Zinov'yevich; KRAYCHIK, Yu.S., red.; ZHITNIKOVA, O.S., tekhn. red.

[Electrodynamic model of power systems] Elektrodinamicheskaia model'
energosistem.  Moskva, Gos. energ. izd-vo, 1961.  112 p.  (MIRA 14:8)

1. Leningradskiy politekhnicheskiy institut (for Vazhnov)
   (Electric power distribution--Models)   (Electric machinery)

VAZHNOV, Aleksandr Ivanovich; SHCHEDRIN, N.N.,.retsenzent; LEVINSHTEYN,
M.L.,.red.; SOBOLEVA, Ye.M., tekhn.red.;

[Fundamentals of the theory of transient processes in synchronous
machines] Osnovy teorii perekhodnykh protsessov sinkhronnoi
mashiny. Moskva, Gos.energ.izd-vo, 1960.  312 p.

(Electric machinery, Synchronous)    (Transients (Electricity))     (MIRA 13:12)

VAZHNOV, A.N.

Methods of forecasting rapid rise of stream waters due to heavy
rains in the Armenian S.S.R.  Izv.AN Arm.SSR.Ser.FMET 1 no.7:
603-616 '48.                                          (MLRA 9:8)

1. Vodno-energeticheskiy institut Akademii nauk Armyanskoy SSR.
               (Armenia--Stream measurements)

VAZHNOV, A.N.

Data on M.A. Velikanov's method of forecasting the rapid rise of small stream waters due to heavy rains.  Izv.AN Arm.SSR.Ser.FMET 1 no.7:617-632 '48.                                      (MLRA 9:8)

1. Vodno-energeticheskiy institut Akademii nauk Armyanskoy SSR.
                (Stream measurements)

Vazimov, A.N.

30767.   VAZIMOV, A. N. and KIPISHCHYAN, I. O.

K voposy ratsionalizatsii seti i nablyudenly gidpometeorolologicheskikh stantsiy na territorii Armyanskoy SSR.  Izvestiya (akad. nauk Arm. SSR), fiz.-matem., estesv. i tekhn. nauki, 1949, No. 2, s. 87-101. - Rezyume na arm. yaz. -- Bibliogr: 7 nazv.

VAZHNOV, Aleksandr Nikolaevich; YEGIAZAROV, I.V., redaktor; KHACHATRYAN, A.S., redaktor izdatel'stva; KAPLANYAN, M.A., tekhnicheskiy redaktor

[Multiannual mean flow of rivers of the Armenian S.S.R. and the annual mean stream] Srednii mnogoletnii stok rek Armianskoi SSR i ego vnutri-godovoe raspredelenie. Erevan, Izd-vo Akademii nauk Armianskoi SSR, 1956. 154 p.                                                      (MLRA 10:1)
        (Armenia--Rivers)

AUTHOR:     Vazhnov, A. N.

TITLE:      Forecasts of Mountain River Runoff in the USA (Prognozy stoka gornykh rek v SSHA)

PERIODICAL: Meteorologiya i Gidrologiya, 1957, No. 1, pp. 51-55 (U.S.S.R.)

ABSTRACT:   The methods employed in studying and forecasting the runoff from mountain rivers in the USA, particularly in the mountain and western states, are described for the information of Soviet hydrometeorologists. Reference is made to the 1934-1936 tests in which panoramic photos were used in evaluating the snow layers in mountains in the southern Platte River Basin and the Colorado and Columbia River regions. The author notices that the USA has taken steps to investigate the water-retentivity of snow and evaporation from the snow surface.

2 Graphs.  There are 14 USA references (no Slavic references).

VAZHNOV, A.N.

Forecasting flood flowoff from mountain rivers supplied by thawing snow and rain. Trudy TSIP no.59:17-28 '57.                    (MIRA 11:4)
                    (Rivers)    (Runoff)

VAZHNOV, A.N.

New observation methods of the snow cover in mountains.  Trudy
Tbil. NIGMI  no.3:88-95  '58.                              (MIRA 11:10)

1. TSentral'nyy institut prognozov.
                        (Snow)

AUTHOR:    Vazhnov, A. N.                              50-58-5-3/20

TITLE:     Forecasting Spring Flood Flow of Mountain Rivers
           on the Basis of General Topographical Relationships
           (Prognoz stoka polovod'ya gornykh rek na osnove terri-
           torial'no obshchikh zavisimostey)

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 5, pp 20-25
           (USSR)

ABSTRACT:  In the practice of long-term forecasts of flow during
           floods graphical or analytical correlative dependences
           of a type $Y_p = f(x_s, x_d)$ are used, where $Y_p$ denotes the
           flow during the floods, $x_s$ - the winter precipitations
           or the maximum store of snow until the beginning of floods
           and $x_d$ - the precipitations since the moment of the de-
           termination of $x_s$ until the end of the period of floods.

           When the additional spring precipitations are small they
Card 1/5   may be disregarded. Then the dependence for the forecast

can be represented as a diagram with 2 variables. But
concrete data must exist for every river or for every
concrete line of direction. From a practical point of
view, however; one must be able to forecast the flow for
such rivers for which no data at all exist. Here only
dependences for entire regions can make a solution of the
problem possible. In the present paper the method mentio-
ned in the title is described for East Transcaucasia. A
certain correspondence was found to exist between the
averages of several years losses of the flow of melted
snow and the amount of snow supplies. In a region with a
more or less uniform course of precipitations per year
and with an equal penetrability of rocks the connection
between the average of the flow of melted snow during the
period of floods and the average of winter precipitations
is fairly close. An analogous connection exists between
the average flow of liquid precipitations and the precipi-
tations themselves. Figure 1 shows it for East Transcaucasia.

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Forecasting Spring Flood of Mountain                    50-58-5-3/20
Rivers on the Basis of General Topogra-
phical Relationships

A climatic and hydrological characteristic of this region
is given. The period of floods lasts from the beginning of
April until June-July. The floods consist of 30-50% of mel-
ted snow, the rest of rain and of permanent subterranean
feed. Curve 2 (Figure 1) makes it possible to determine the
value of the flow of melted snow from the amount of the ma-
ximum store of snow or the sum of winter precipitations. The
store of snow can be computed according to earlier data (Re-
ference 1). From the above-mentioned curve 2 the average
flow during the period of floods without subterranean feed
is determined. It became evident that the losses of the
flow of melted snow increase with increasing supplies of
snow, although with a certain delay (Reference 1). Therefore
the flow coefficient also increases with an increasing
supply of snow. Figure 2 shows this connection for the Arag-
vi river. The influence of fall precipitations upon the flow
of floods is little. All this makes possible the following

Card 3/5      assumption:

Forecasting Spring Flood of Mountain
Rivers on the Basis of General Topogra-
phical Relationships

$$\frac{Y_s}{\overline{Y}_s} = f\left(\frac{X_s}{\overline{X}_s}\right) \quad (1), \text{ i. e. the ratio of the flow of melted}$$

snow in the respective year to its norm represents a func-
tion of the relation of snow supply alone to its norm. The
last dependence for East Transcaucasia approximately repre-
sents a straight line (2). For the computation of the se-
cond component - the flow of precipitations during the pe-
riod of floods - the flow coefficient of precipitations is
considered as constant from year to year. For various river
basins it rises within the respective region according to
rules, with increasing store of snow (winter precipitations)
(Figure 3). From the diagram of figure 3 the average coeffi-
cient for liquid precipitations during the period of floods
can be determined for every river basin. The last, the third
term of the sum - the permanent subterranean feed - is de-
termined from the minimum water consumption of early spring
in the respective year which is assumed as constant for the
entire period of floods. The total flow during the period

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Forecasting Spring Flood of Mountain
Rivers on the Basis of General Topogra-         50-58-5-3/20
phical Relationships

of floods in the respective year is determined by the
addition of all 3 terms of the sum.
There are 4 figures and 4 references, 4 of which are
Soviet.

1. Inland waterways    2. Floods    3. River currents--Analysis
4. Precipitation    5. Mathematics

Card 5/5

VAZHNOV, H-IV
ABAL'YAN, A.H.

"Average perennial flowoff of rivers of the Armenian S.S.R. and
intra-annular distribution of this flowoff" by A.H. Vazhnov.
Reviewed by T.S. Abal'ian. Meteor. i gidrol. no.8:58-59 Ag '58.
                    (Armenia—Rivers)                    (MIRA 11:8)
                    (Vazhnov, A.H.)

8(6), 14(6)

AUTHOR: Vazhnov, A. N.

TITLE: Forecasting the Spring-Summer Runoff of Transcaucasian Rivers

ABSTRACT: The found relationship between the quantity of winter and spring precipitation and the runoff of certain Caucasian and Transcaucasian rivers permits compiling long-term runoff forecasts. Short-term forecasts (under one month) require careful observation of snow-cover melting. It is suggested that a few experimental mountain basins be singled out and that all hydrometeorological observations be made in these basins.

Ye.A.I.

Card 1/1

VAZHNOV, A. N.

p v

PHASE I BOOK EXPLOITATION     SOV/4158

Moscow.  Tsentral'nyy institut prognozov

Voprosy prognozov stoka rek  (Forecasting River Flow)  Moscow, Gidrometeoizdat
(Otd-niye)., 1960.  125 p.  Errata slip inserted.  1,000 copies printed.
(Series:  Its:  Trudy, vyp. 96)

Additional Sponsoring Agency:  USSR.  Glavnoye upravleniye gidrometeorologicheskoy
sluzhby.

Ed. (Title page): A.N. Vazhnov; Ed. (Inside book): M.I. Sorokina;  Tech.Ed.:
I.M. Zarkh.

PURPOSE:  This publication is intended for hydrologists and hydroelectric
engineers.

COVERAGE:  This issue of the Transactions of the Central Institute of Fore-
casting contains 6 articles on problems in forecasting river discharge.

Card 1/3

Forecasting River Flow                                SOV/4158

Individual papers discuss the underground and snowmelt feed of rivers, the use of aerial photographs in the investigation of snow cover, and the calculation of the unstabilized movement of water in the tailrace of a hydroelectric power plant. References accompany each article.

TABLE OF CONTENTS:

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Forecasting River Flow                                    SOV/4158

Kharshan, Sh.A., and A.I. Rimashevskiy.  Observations of Snow Cover Over
the Oyskiy Range(Western Sayan )                                        76

Zhidikov, A.P.  Calculation of the Unstabilized Movement of Water in the
Tailrace of the Rybinskaya Hydroelectric Power Plant Under Daily Regulation
Conditions, According to the Method of G.P. Kalinin and P.I. Milyukov      85

AVAILABLE:   Library of Congress

                                                          JA/dwm/gmp
Card 3/3                                                  9-7-60

VAZHNOV, A.N.

"History of studying the laws of runoff in mountaincus regicns"
by L.A.Vladimirov.  Reviewed by A.N.Vazhnov.  Meteor. i gidrol.
no.4:62-64  Ap  '62.                                    (MIRA 15:5)
                              (Runoff)
                         (Vladimirov, L.A.)

VAZHNOV, A.N., kand.tekhn.nauk

Hydrograph calculation of a flood of a mountain river according
to precipitation. Meteor. i gidrol. no.4:28-32  Ap '65.

(MIRA 18:4)

1. TSentral'nyy institut prognozov.

KORNEYEV, V., inzh.; VAZHNOV, B., inzh.

Why the efficiency promoter did not go to the Office for the Promotion of Industrial Efficiency and Inventions? Izobr. i rats. no.10:31-32 O '58.                                     (MIRA 11:11)
              (Efficiency, Industrial)

Vazhnov BN

KISLITSYN, S.I.; SHIRKOV, I.P.; VENGEROVSKIY, V.A.; FEDOROV, D.F.;
VAZHNOV, B.N.; TRUNTSEV, D.S.

Rostrum of periodical's readers, inventors, efficiency promoters,
and innovators at readers' conference in Moscow. Izobr. v SSSR
2 no.9:37 S '57.
(MIRA 10:10)

1.Deputat Verkhovnogo Soveta SSSR (for Shirkov). 2.Zavod "Serp i
molot" (for Fedorov, Truntsev) 3.Byuro sodeystviya ratsionalizatsii
i izobretatel'stvu Nauchno-issledovatel'skogo instituta Drevmash
(for Vazhnov).

(Moscow--Inventions)
(Moscow--Suggestion systems)

VAZHNOV, B.N.

Inventor N.F. Gusev. Izobr. v SSSR 3 no.2:18-20 F '58.    (MIRA 11:3)
    (Inventors)    (Woodworking machinery)

VAZHNOV, B.N.

Young workers in machine-tool industry. Izobr.v SSSR 2 no.5:41
My '57.                                        (MLRA 10:7)
                    (Machine-tool industry)

VAZHNOV, B.N.

Our suggestions. Izobr. v SSSR 2 no.6:44 Je '57.   (MIRA 10:8)
(Suggestion systems)

VAZHNOV, L.D.

Introducing the refining of AL-9 alloy with argon. Biul. tekh.-
ekon. infrom. Gos. nauch.-issl. inst. nauch. i tekh. inform. 18
no.2:20-21  F '65.                                    (MIRA 18:5)

MOSTOVOY, A., inzh.; VAZHOV, A., mekhanik

Remote control of the 3D12 engine of the LOTS-14 cutter. Rech.
transp. 19 no. 2:31-32 F '60.                              (MIRA 14:5)
            (Remote control)   (Marine diesel engines)

USSR / Cultivated Plants.   Fruits, Berries, Nutbearing,    M-6
        Teas.

Abs Jour    : Ref Zhur - Biologiya, No 2, 1959, No. 6404

Author      : Vazhov, V.
Inst        : Not given
Title       : Spring Frost Protection of Perennial Plantings

Orig Pub    : Vinogradarstvo i sadovodstvo Kryma, 1958,
              No 3, 27-29

Abstract    : No abstract given

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MOSTOVOY, A.F.; VAZHOV, A.D.

Hydraulic shears for cutting metal up to 8 mm. thick. Mashino-
stroitel' no.11:29 N '60.                          (MIRA13:10)
                    (Shears (Machine tools))

ACC NR: AP6015637                    SOURCE CODE: UR/0413/66/000/009/0044/0045

INVENTOR: Vazhov, G. I.

ORG: none

TITLE: Contactless dc motor. Class 21, No. 181182

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 44-45

TOPIC TAGS: electric motor, dc motor

ABSTRACT: This Author Certificate presents a contactless dc motor of the synchronous type with a multiphase armature winding supplied through a converter from a dc circuit. The motor contains a transformer detector of the rotor position angle with magnetization from permanent magnets and is connected at the output of the converter. To increase the reliability, the armature winding phases are connected directly to the output windings of the transformer detector through semiconductor rectifiers (see Fig. 1).
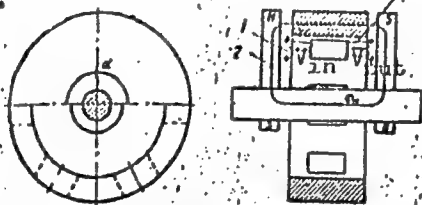
Fig. 1.   1 - rotation angle
detector;   2 - permanent
magnets;   3 - output
winding of detector

Card 1/2                                                UDC:  621.313.292

ACC NR: AP6015637

Orig. art. has:  1 diagram.

SUB CODE: 09/     SUBM DATE:  10Dec63

Card 2/2

L 45234-65    EWT(m)/EWP(w)/EPF(c)/EPF(n)_2/Ewa(d)/EPR/E/EEP(c)/ WP(j)/ EP·
Pr·· P·· P···    ·CP· ·]· ·N·A·L·

ACCESSION NR: AP5007648                                    S/0193/65/000/002/0020/0021

AUTHOR:  Vazhnov, L. D.

TITLE:  Experience gained in adopting argon refining for alloy AL-9

SOURCE:  Byulleten' tekhniko-ekonomicheskoy informatsii, no. 2, 1965, 20-21

TOPIC TAGS:  alloy, argon, metal degassing, alloy property/ AL 9 alloy

ABSTRACT:  To eliminate the disadvantages of using zinc chloride in refining alloy AL-9, a method of refining and degassing with argon was developed. The process is schematically shown in Fig. 1 on the Enclosure. After the alloy is transferred to the pouring furnace, a heated quartz tube (12-15 mm inside diameter) is lowered to within 50-100 mm of the crucible bottom, and argon is passed through the metal (at 700-720C) for 5-6 minutes. After sampling, the metal is poured, or the process is repeated. The average properties of the argon refined alloy were $\sigma_B$ = 25-29 kg/mm$^2$, 6 to 10% as compared with 21-24 and 2-4 % respectively for zinc chloride refining. Adoption of argon refining at the present level of AL-9 output saves 2300 rubles annually. Orig. art. has: 1 figure.

ASSOCIATION: Volgo-Vyatskiy sovnarkhos (Volgo-Vyatskiy Council of National Economy)
Card 1/3

VAZHOV, V. I.

   "Drought in the Territory of the Central Chernozem Regions."  Cand Geog
Sci, Voronezh State U, Min Higher Education USSR, Voronezh, 1955.  (KL, No 15, Apr 55)

SO:  Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations
Defended at USSR Higher Educational Institutions (16).

VAZHOV, Vasiliy Ivanovich, kand.geograf.nauk; BURTSEV, Dmitriy Antonovich;
    ZHILYAKOVA, O., red.; ISUPOVA, N., tekhn.red.

    [Unseasonable frosts and their control]  Zamorozki i bor'ba s nimi.
    Simferopol', Krymizdat, 1960.  79 p.                    (MIRA 13:12)
                        (Crimea--Crops and climate)
                        (Crimea--Frost protection)

KALININ, G.P.; MILYUKOV, P.I.; VAZHNOVA, A.N.,otv.red.; ZHDANOVA, L.P.,red.; VLADIMIROV, O.G.,tekhn.red.

[Approximate calculation of unsettled motion of water masses] Priblizhennyi raschet neustanovivshegosia dvizheniia vodnykh mass. Leningrad, Gidrometeor. izd-vo, 1958. 70 p. (Moscow. TSentral'nyi institut prognozov. Trudy, no.66)    (MIRA 12:1)
                    (Hydrology)

VAZHNOVA, G. S.

VAZHNOVA, G. S.: "The behavior of strip insulation under conditions of increased temperature and high relative humidity." Leningrad, 1955. Min Higher Education USSR. Leningrad Polytechnic Inst imeni M. I. Kalinin. (Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis' No. 47, 19 November 1955. Moscow.

65992 $6.9582$

SOV/112-59-22-45362

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, Nr 22, p 10 (USSR)

$15.8000$  $15.9300$

AUTHORS:     Mikhaylov, M.M., Vazhnova, G.S.

TITLE:       The Influence of Temperature on Moisture Characteristics (P, D and h) of Film Materials

PERIODICAL:  Nauchno-tekhn. inform. buyl. Leningr. politekhn. in-t, 1958, Nr 7, pp 22 - 30

ABSTRACT:    Evaluation of the behavior of a material in a moist surrounding from an increase in the weight of samples during 24 - 48 hours is obsolete. A correct choice of moisture protecting materials, as well as a choice of the electric insulation itself is possible only when the three main moisture characteristics of the material are known: moisture permeability constant of the material P (g/cm · mm Hg · hour), which characterizes the total amount of moisture passing through the given material; solubility coefficient h (g/cm$^3$ · mm Hg) which determines the amount of moisture absorbed by the material in the saturation state, and the diffusion coefficient D (cm$^2$/hour.) These coefficients are connected by the relation P = hD. Therefore for a complete characteristic of the

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The Influence of Temperature on Moisture Characteristics (P, D and h) of Film Materials

behavior of a material in a moist medium, it is sufficient to know any two of them.  The characteristics P, D and h of various films were determined by the method of the pressure change.  Also was studied the influence of temperature on characteristics of various materials.  The dependence of P on the absolute temperature according to the law: $P = P_0 \cdot \exp(- E/RT)$, where E is activation energy;  R is a gas constant.  When E is known, the change of P with the change of temperature can be determined.  Values of E for the tested films (aceto-butyrate and triacetate of cellulose, polystyrene, escapone, varnishes 13 and 47, polymethylmethacrylate, light varnish fabric) are given.  All these materials have not high moisture protective properties.  The minimum P have polystyrene, varnishes 13 and 47.  The maximum P has triacetate of cellulose, which is probably explained by its higher polarity as compared with the other tested materials.  The change of temperature has practically no influence on the value of P;  only for triacetate of cellulose and varnish fabric an insignificant decrease in P with an increase in temperature was observed.  At the same time the change of temperature in each individual case led to the change in the speed of the moisture permeability through the same material.  The higher the temperature, the quicker the state of equilibrium is reached.  The value of h for the tested materials is reduced by a half order or even by an order of magnitude at the change  of temperature from $20^{\circ}C$ to $60^{\circ}C$.  The decrease in h with the temperature has

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a great practical importance for the calculation of the service time or of the time of effectiveness of moisture protection of an object. This time is determined by the formula

$$\tau = -\frac{hVd}{PS} \ln (1 - p_k 1 p_o),$$

where V is volume of insulation protected against moisture; d is thickness of the moisture protecting layer; S is area of insulation exposed to moisture; $p_k$ is the critical pressure of water vapors. Thus, $\tau$, other conditions being equal, is proportional to h/p; the greater this relation the longer the lifetime of the object. The temperature will strongly influence the changes of $\tau$, as with an increase in the temperature P practically does not change, but h decreases sharply. The knowledge of values of P and h and their temperature relations is necessary for the correct solution of the problem of the choice of a proper moisture protecting material and of the field of its application. 3 references.

A.O.M.

Card 3/3

VAZHOV, I.; MOSKALEV, P., inzh.

We are raising the labor productivity in every operation. Transp delo 6 no.4:38-42 '54.

1. Nachalnik gara Inskaia (for Vazhov).

KHERSONOVA, L.A.; VAZHOVA, O.V.

Production of pectolytic ferments from  the submerged culture
of Aspergillus niger "C" on the atomizing dryer. Ferm i spirt.
prom. 30 no.7:4-5  '64                              (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy
i spirtovoy promyshlennosti.

KOMAROV, A.F.; VAZHOVA, G.V.

Technical and economic parameters of the dehydration and drying
of yeast feeds and biomycin. Ferm. i spirt. prom. 30 no.3:32-35 '64.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy
i spirtovoy promyshlennosti.

NESMEYANOVA, S.I.; CHIKRYZOVA, L.G.; BOYKO, V.M.; KORNIYENKO, T.I.;
VISHNEVSKAYA, L.F.; VAZHOVA, T.V.

Studying the duration of immunity to smallpox vaccine in Uzbekistan.
Med. zhur. Uzb. no.8:65-68 Ag '61.                    (MIRA 15:1)

1. Iz Tashkentskogo instituta vaktsin i syvorotok (direktor –
A.B.Inogamov).
(UZBEKISTAN—SMALLPOX—PREVENTION)    (IMMUNITY)

3.2420 (1049, 1482)
17.1450

26819
S/560/61/000/008/008/010
E032/E514

AUTHORS: Gorchakov, Ye. V. and Vazilevskaya, G. A.

TITLE: Measurement of the intensity of charged particles after the chromospheric flare of July 7, 1958

PERIODICAL: Akademiya nauk SSSR, Iskusstvennyye sputniki zemli, 1961, No.8, pp.84-86

TEXT: The flare of July 7, 1958 was of importance 3[+] and occurred between 00 h 58 m and 04 h 14 m U.T. (Ref.1: Solnechnyye dannyye 1958, No.7, izd-vo AN SSSR, 1958). The present authors have used the data obtained with the third Soviet artificial Earth satellite to determine the changes in the intensity of the corpuscular radiation in the region of the outer radiation belt. The detector employed was described by S. N. Vernov, P. V. Vakulov, Ye. V. Gorchakov, Yu. I. Logachev and A. Ye. Chudakov (Ref.2: Iskusstvennyye sputniki Zemli, No.2, izd-vo AN SSSR, 1958, p.61) and was in the form of a cylindrical sodium iodide crystal (diameter 39.5 mm, length 40 mm). The crystal was surrounded by an aluminium screen of $1 \text{ g/cm}^2$. It was found that a strong increase in the intensity began roughly 16 hours after the

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Measurement of the intensity of ...

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termination of the flare but only a few hours prior to the onset of the magnetic storm.   Fig.1 shows the absolute increase in the ionization in the crystal ($\Delta J$, eV/sec) deduced from the measurements for July 7-9, 1958.   The arrows indicate the lower limits of the absolute increase in the ionization.  Analysis of the operation of the counter has shown that the increase in the ionization at these points cannot exceed $10^{13}$ eV.   In Fig.1 the vertical axis gives the logarithm of the difference between the observed and the average value of the ionization and the time is plotted along the horizontal axis.   The shaded region in the left-hand corner indicates the duration of the chromospheric flare and the arrows on the axis show the beginning and end of the magnetic storm.   A. N. Charakhch'yan, V. F. Tulinov, T. N. Charakhch'yan (Ref.3: ZhETF, 39, 249, 1960) have shown that the increase in the intensity of cosmic radiation which they detected in the stratosphere on July 8, 1958 at 08 h was due to protons in a corpuscular solar stream.   The present authors have used the data reported in Ref.3 to calculate the corresponding increase in the ionization which one would have expected to obtain

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with the sodium iodide crystal.  It turns out that the resulting
number is lower by a factor of 1000 than the ionization actually
recorded with the counter mounted on the satellite.  The present
authors show that the difference between the present results
and those of A. N. Charakhch'yan et al. (Ref.3) may possibly be
due to multiply charged particles, although they also show that
the data now reported is not inconsistent with 100 MeV protons
being responsible for the additional ionization.  Acknowledgments
are expressed to S. N. Vernov, A. Ye. Chudakov and
A. N. Charakhch'yan for interest and discussions.    There are
1 figure and 3 Soviet references.

SUBMITTED:  August 2, 1960

Card 3/4

Vazilevskiy, V. M.

MIC.
Misc.
.1132A

Btoriunye dragotsennye metally (Secondary precious metals (silver, gold, platinum)
Moskva, Metallurgizdat (1946)
I v. Illus.

BRAGIN, N., inzh.; VAZILO, A., inzh.; DZEKTSER, Ye., inzh.; KUDRYAVTSEV, V., inzh.

Use of ground water as source of supply for fire extinction in milled
peat winning fields.  Pozh.delo 9 no.3:14-15 Mr '63.    (MIRA 16:4)

1.  Gosudarstvennyy institut po proyektirovaniyu predpriyatiy torfyanoy
promyshlennosti.
            (Peat industry—Fires and fire prevention)

VAZILO, A.P., inzh.; SHERZHUKOV, B.S., inzh.

Water supply for fire prevention on milled peat fields. Torf.prom.
36 no.1:36  '59.                                        (MIRA 12:3)

1. Giprotorf.
            (Water supply, Industrial)

SHABLINSKIY, Vladimir Varfolomeyevich; VAZILO, A.P., inzh., red.;
SHERZHUKOV, B.S., inzh., red.; LARIONOV, G.Ye., tekhn.red.

[Hydraulic calculation of canals and small rivers in connection
with the draining of peat deposits, bogs, and swampy land]
Gidravlicheskie raschety kanalov i malykh rek pri osushenii
torfianykh mestorozhdenii, bolot i zabolochennykh zemel'.
Moskva, Gos.energ.izd-vo, 1959. 111 p.                    (MIRA 12:4)
     (Drainage)     (Hydraulic engineering)

VAZIN, A.L., inzhener.

Resources and prospective development of the Northern Railroad.
Zhel.dor.transp. 37 no.10:24-27  O '55.          (MLRA 9:1)

1.Nachal'nik tekhnicheskogo otdela upravleniya Severnoy dorogi,
Yaroslavl'.
                    (Railroads)

VAZIN, A.N., aspirant

Effect of different stimuli of intestinal secretion on the ..
enzymic activity of the contents of the small human intestine.
Sbor. nauch. trud. Ivan. gos. med. inst. no.25:39-48  '62.
(MIRA 17:5)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. S.S. Poltyrev)
i kafedry obshchey khirurgii (zav. - prof. N.A. Vazin) Ivanovskogo
gosudarstvennogo meditsinskogo instituta (rektor - dotsent Ya.M.
Romanov), Ivanovskoy oblastnoy klinicheskoy bol'nitsy (glavnyy
vrach - zasluzhennyy vrach RSFSR A.A. Cheyda) i Ivanovskogo oblastnogo
onkologicheskogo dispansera (glavnyy vrach - zasluzhennyy vrach
RSFSR A.N. Styskin).

VAZIN, A.N., aspirant; BARTENEVA, M.N.

Comparative data on the enzymic activity of the intestinal juice and excrement in experimental stomach ulcers in dogs.  Sbor. nauch. trud. Ivan. gos. med. inst. no.25:49-53 '62.          (MIRA 17:5)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. S.S. Poltyrev) i TSentral'noy nauchno-issledovatel'skoy laboratorii Ivanovskogo gosudarstvennogo meditsinskogo instituta (rektor-dotsent Ya.M.Romanov).

VAZIN, A.N., aspirant

Pathological afferent influences from the stomach on some
functions of the digestive apparatus and liver. Sbor. nauch.
trud. Ivan. gos. med. inst. no.27:126-133'62.     (MIRA 16:8)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. S.S.
Poltyrev) Ivanovskogo gosudarstvennogo meditsihskogo instituta
(rektor - dotsent Ya.M.Romanov).
    (DISEASE—LIVER) (STOMACH—ULCERS)

VAZIN, A.N.

Comparative characteristics of the motor-evacuant function of
the gastrointestinal system following resection of the stomach
by Bilroth II and insertion methods under experiment conditions.
Pat. fiziol. i eksp. terap. 8 no.4:57-59 Jl-Ag '64.
(MIRA 18:2)

1. Kafedra patologicheskoy fiziologii (prof. S.S. Poltyrev)
Ivanovskogo meditsinskogo instituta.

VAZIN, A.N.

Comparative characteristics of some vegetative changes following experimental gastric resection by the Billroth II and insertion methods. Eksper. khir. i anest. 9 no.1:43-48 Ja-F '64.

(MIRA 17:2)

1. Kafedra patologicheskoy fiziologii (zav. - prof. S.S.Poltyrov) i kafedra obshchey khirurgii (zav. - prof. N.A.Vazin) Ivanovskogo meditsinskogo instituta.

VAZIN, A.N.

Comparative values of compensation following gastric resection using the Billroth II and insertion methods. Biul.eksp.biol.i med. 57 no.5:19-23 My '64.     (MIRA 18:2)

1. Kafedra patofiziologii (zav. - prof. S.S.Poltyrev) Ivanovskogo meditsinskogo instituta. Submitted March 7, 1963.

VAZIN, D.A.

In creasing labor productivity in mines of the Rostovugol'
Combine. Trudy NPI 140:21-27  '63.                    (MIRA 17:9)

VAZIN, D.A.

Classification of the rigidity of roof rocks.  Trudy NPI  101:29-44
'60.                                                              (MIRA 15:5)

(Donets Basin--Stoping (Mining))
(Donets Basin--Rocks--Classification)

PROKOPENKO, Ivan Nikitich, VAZIN, Dmitriy Aleksandrovich, CHUMACHENKO,
       Petr Petrovich.; VESKOV, M.I., otv. red.; SHUSHKOVSKAYA, Ye.L.,
       red. izd-va.; VINOGRADOVA, G.V., red. izd-va.; NADEINSKAYA,
       A.A., tekhn. red.

       [Working coal beds in Central Asia] Razrabotka ugol'nykh plastov
       Srednei Azii. Moskva, Ugletekhizdat, 1958. 159 p.      (MIRA 11:11)
              (Soviet Central Asia--Coal mines and mining)

VAZINA, A. A., LEMAZHIKHIN, B. K., and ANDREYEVA, N. S. (USSR)

"The Employment of a Narrow-Angle X-Ray Dispersion method for Examination of Protein Solutions."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

VAZINA, A.A.; LEMAZHIKHIN, B.K.; FRANK, G.M.

Discrete dispersion of rays at small angles on a concentrated actin
solution. Biofizika 9 no.2:237 '64.                          (MIRA 17:12)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

VAZINA, A.A.; LEMAZHIKHIN, B.K.,FRANK, G.M.

Discovery of an actin polymer differing from the F-form. Dokl.
AN SSSR 159 no.4:921-922  D '64              (MIRA 18:1)

1. Institut biologicheskoy fiziki AN SSSR. 2. Chlen-korres-
pondent AN SSSR (for Frank).

VAZINA, A.A.; LEMAZHIKHIN, B.K.; FRANK, G.M.

Liquid crystalline structure in nonoriented gels and F-actin
solutions.  Biofizika 10 no.3:420-423  '65.          (MIRA 18:11)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.  Submitted
July 6, 1964.

VAZINA, A.A.; FRANK, G.M.; ZHELEZNAYA, L.A.

Intermediate actin polymer.  Biokhimiia 30 no.4:721-726
Jl-Ag '65.                                        (MIRA 18:3)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

VAZINA, A.A.· BOLOTINA, I.A.; VOL'KENSHTEYN, M.V.; LYASOTSKAYA, I.;
FRANK, G.M.

Configuration of a polypeptide chain in G- and F-actin.
Biofizika 10 no.4:567-570  '65.                    (MIRA 18:8)

1. Institut biologicheskoy fiziki AN SSSR, Moskva, 1 Institut
vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad.

POGLAZOV, B.F.; VAZINA, A.A.; BELAVTSEVA, Ye.M.; KITAYGORODSKIY, A.I.

Roentgenographic and electron microscopic study of tail coatings of the phage T-2. Dokl. AN SSSR 163 no.2:488-490 Jl '65.   (MIRA 18:7)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR; Institut biologicheskoy fiziki AN SSSR i Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted September 30, 1964.

L 24927-65

ACCESSION NR: AR4047780                 S/0299/64/000/018/M022/M022

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 18M166

AUTHOR: Vazina, I. R.

TITLE: Changes in replanted lungs related to bronchial anastomosis constriction

CITED SOURCE: Sb. Vopr. travmatol., ortopedii, sluzhby krovi. Gor'kiy, 1964, 252-254

TOPIC TAGS: dog, lung, replantation, anastomosis, emphysema

TRANSLATION: Constriction of the bronchial anastomosis (diameter was reduced by 2-3 times) was found in 14 of 90 dogs with a replanted left lung. As a rule, constriction was combined with exudative pleuritis and difficult venous outflow. Emphysema of the lung and hypertrophy of smooth muscles in the bronchia and vessels developed in the presence of only one bronchial constriction. Sclerotic changes were noted if the vein was also constricted, leading to the development of sclerosis of the lungs. [unclear]

Card 1/1    SUB CODE: LS       ENCL: 00

VAZINA, I.R. (Gor'kiy)

Morphological changes in reimplanted lungs during complications
connected with disorders of the venous outflow. Arkh. pat. 27
no.9:16-22. '65.                                    (MIRA 18:12)

1. Kafedra patologicheskoy anatomii (zav.- prof. M.L. Biryukov)
Gor'kovskogo meditsinskogo instituta imeni S.M. Kirova i
laboratoriya konservatsii i transplantatsii organov i tkaney
(zav.- kand. med. nauk S.I. Yutanov) Gor'kovskogo instituta
travmatologii i ortopedii. Submitted December 2, 1963.

VAZINA, L.A.

Yaroslavl'. Teknologicheskiy Institut

Uchenyye Zapiski, Tom II (Scientific Notes, Vol. 2)
Yaroslavl', Oblgiz, 1957. ... , ... copies printed.

Editorial Staff: A.I.Zaikin, Candidate of Historical Sciences; Docent
M.M. Makarov, Candidate of Technical Sciences; Professor M.I. Farberov,
Doctor of Technical Sciences;

Resp. Ed.: Professor Yu.S. Musabekov, Doctor of Chemical Sciences

Secretary-Scientist: B.I. Unterbokhtov, Candidate of Chemical Sciences

PURPOSE: This book is primarily intended for industrial chemists and tech-
nologists interested in the kinetics of chemical reactions and their re-
lated physical processes.

COVERAGE: The twenty-two articles of this collection deal mainly with in-
dustrial processes for the preparation of organic compounds, problems of
best physics and general mechanics related to these processes, and with
industrial chemical equipment. No personalities are mentioned. References
are given after each article.

TABLE OF CONTENTS:

2/4

VAZINGER, Alevtina Vasil'yevna; YEGEREVA, N., red.; SHAVEL'SKAYA, T., otv. za vypusk; YURGANOVA, M., tekhn. red.

[Natural conditions and feed resources of Chita Province] Pri-rodnye usloviia i estestvennye kormovye resursy Chitinskoi ob-lasti. Chita, Chitinskoe knizhnoe izd-vo, 1959.  126 p.
(MIRA 14:10)

(Chita Province—Physical geography)

VAZINGER, I.V.

Effect of the light factor on the development of initial
phases in the organogenesis of the Gossypium hirsutum L.
cotton species. Vop. biol. i kraev. med. no.4:88-92  '63.
                                    (MIRA 17:2)

82777

SOV/184-59-5-5/17

*10.2001*

AUTHOR:     Vazinger, V.V., Engineer

TITLE:      The Dependence of the Suction Coefficient of a Piston Compressor on the Number of Revolutions

ABSTRACT:   The theoretical part of this paper is based on the well-known studies of Professor N.A. Dollezhal' on the theory of self-acting valves of piston compressors. Proceeding from the formula for the suction efficiency of a compressor $Q_s = \lambda_s F_p Sn$ $m^3/min$ (1), where $\lambda_s$ - suction coefficient, $F_p$ - surface of the piston ($m^2$), S - stroke of the piston (m), n - rpm, author states that the dependence of the sucked volume on the rpm number is not adequately expressed by the above equation, since the suction coefficient itself also depends on the rpm number. Consequently, the equation (1) can be used only in the case when the relation between $\lambda_s$ and n is known. The generally accepted expression for the suction coefficient $\lambda_s = \lambda_i \lambda_\omega$, (where $\lambda_i$ - indicated suction coefficient and $\lambda_\omega$ - coefficient accounting for change of gas density by heating) does not take into account the actual processes taking place in compressor cylinders at a high rpm number. The following formula is more correct:

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The Dependence of the Suction Coefficient of a Piston Compressor on the Number of Revolutions

$$\lambda_s = \lambda_v - \left( \frac{\varepsilon}{k} \sigma^{\frac{1}{k}} + \frac{1+\varepsilon}{k} \sigma \right) \frac{P_0}{F_r P_k} - \qquad (14)$$

$$- \frac{0.019 \, m_k \, R_h \, n^2}{P_0}$$

where $\lambda_v = 1 + \varepsilon - \varepsilon \sigma^{\frac{1}{k}}$, $\varepsilon$ - dead space coefficient, $P_0$ - initial tension of the valve spring, $F_r$ - rated area of passage in the valve seat ($m^2$); $\sigma$ - nominal compression ratio; $m_k$ - mass of moving parts of the valve (kg $sec^2/m$); $R_h$ - hydraulic radius of valve seat (m). For the design of the valve the following parameters are important: $\alpha_1$ (discharge coefficient of the valve at a relative opening $\Omega = 1$), $R_h$, $\frac{m_k}{F_r}$, and $l_m$ (the relation of the dead volume, formed by the valve, to the nominal surface of the inlet in the valve seat). From equations (9)-(11) and (14)-(18) it follows, that at equal production costs a valve with a higher value of $\alpha_1$ and lower values of the other three parameters is preferable. The intake volume reaches the maximum at a certain definite rpm number, after which a further rpm increase leads to a decrease of the intake volume. In an ideal case, the ultimate rpm number of a compressor is:

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SOV/184-59-5-5/17

The Dependence of the Suction Coefficient of a Piston Compressor on the Number of Revolutions

$$n_{lim} = \frac{\lambda_v}{0.552 \sqrt{\frac{m_k R_h}{P_k F_r} \left( \frac{\varepsilon}{k} \sigma^{\frac{1}{k}} + \frac{1 + \varepsilon}{k \cdot} \varepsilon \right)}} \quad rpm.$$

The increase of the rpm number has a negative effect on the suction coefficient, but this can be reduced to a minimum by a proper valve design. There are 8 graphs and 1 Soviet reference.

Card 3/3

VAZINGER, V.V.

AUTHOR: Vazinger, V. V.                          115-1-5/15

TITLE: Pneumatic Transport Relay (Putevoye pnevmaticheskoye rele).

PERIODICAL: Priborostroyeniye, 1958, Nr 1, pp. 28-28 (USSR)

ABSTRACT: The relay described was built for an apparatus with which tin plates can be automatically galvanized. The most important part of this apparatus is the stacker which arranges the plates on one another. At the outlet of the apparatus the galvanized plate is picked up by an electric magnet and is transported on a conveyer belt to a prefixed place. There the electric magnet is disonnected and the plates slip into the depot. For the automation a 20 operations per minute (in dependence on the position of the plates) were demanded.
The relay operates about as follows: A metal diaphragm can be met by from one side by jet of air and thus be moved. On the other side of the diaphragm there is a bolt partly isolated which acts on electric contacts, which in this way are connected or disconnected. When, now, the galvanized tin plate comes to lie between the air-outlet nozzle the diaphragm

Card 1/2

Pneumatic Transport Relay                                    119-1-9/13

    is in its initial position and the contacts at the other
side are open, i.e. the magnet is dead. When the plate is off
the airstream meets the diaphragm and the magnet becomes
current-carrying.
In the laboratory 67,000 cycles of 20 operations each were
run and the relay did not fail once.
A similar apparatus built by another institution needs an
airpressure of 0,5 kg/cm$^2$ while the one described above can
be operated with from 400-600 mm water column pressure.
There are 2 figures.

AVAILABLE:  Library of Congress.

    1. Relays-Development

Card 2/2

VAZINGER V.V.

relationship which characterize the efficiency of the plant and the warming up of the motor by starting voltages are indicated. Methods of protection against possible breakdowns are described.

VAZINGER, V.V.

Solenoid valves. Priborostroenie no.4:7-10 Ap '57.     (MLRA 10:5)

(Valves) (Electric relays)